***** CONFIDENTIAL *****
***** PREDECISIONAL DOCUMENT *****

# SUMMARY SCORESHEET FOR COMPUTING PROJECTED HRS SCORE

**SITE NAME:** Varian Associates

**CITY, COUNTY:** Santa Clara, Santa Clara County

**EPA ID #:** CAT000625392 **EVALUATOR:** Kathy Zavitz

**PROGRAM ACCOUNT #:** FCA1787RAA **DATE:** August 10, 1991

Lat/Long: 37°20'42" 121°56'48"

**THIS SCORESHEET IS FOR A:** **PA** _____ **SSI** _____ **LSI** _____

**SIRe** _____ **PA Redo** _____ **Other (Specify)** EPI-PA

**RCRA STATUS** (check all that apply):

x Generator ___ Small Quantity Generator ___ Transporter x TSDF

___ Not Listed in RCRA Database as of (date of printout) / /

**STATE SUPERFUND STATUS:**

___ BEP (date) / / ___ WQARF (date) / /

___ No State Superfund Status (date) / /

| | S pathway | $S^2$ pathway |
|---|---|---|
| Groundwater Migration Pathway Score ($S_{gw}$) | 23.81 | 566.92 |
| Surface Water Migration Pathway Score ($S_{sw}$) | | 0* |
| Soil Exposure Pathway Score ($S_s$) | | 0* |
| Air Migration Pathway Score ($S_a$) | | 0* |
| $S^2_{gw} + S^2_{sw} + S^2_s + S^2_a$ | XXXXXXXXXXXX | |
| $(S^2_{gw} + S^2_{sw} + S^2_s + S^2_a)/4$ | XXXXXXXXXXXX | 141.73 |
| $\sqrt{(S^2_{gw} + S^2_{sw} + S^2_s + S^2_a)/4}$ | XXXXXXXXXXXX | 11.9 |

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## GROUNDWATER MIGRATION PATHWAY SCORESHEET

**Factor Categories and Factors**

| | Likelihood of Release | Maximum Value | Projected Score | Rationale | Data Qual. |
|---|---|---|---|---|---|
| 1. | Observed Release | 550 | | | |
| 2. | Potential to Release | | | | |
| | 2a. Containment | 10 | | | |
| | 2b. Net Precipitation | 10 | | | |
| | 2c. Depth to Aquifer | 5 | | | |
| | 2d. Travel Time | 35 | | | |
| | 2e. Potential to Release [Lines 2a x (2b+2c+2d)] | 500 | | | |
| 3. | Likelihood of Release (Higher of lines 1 or 2e) | 550 | | | |
| | **Waste Characteristics** | | | | |
| 4. | Toxicity/Mobility | a | | | |
| 5. | Hazardous Waste Quantity | a | | | |
| 6. | Waste Characteristics (lines 4 x 5, then use Table 2-7) | 100 | | | |
| | **Targets** | | | | |
| 7. | Nearest Well | 50 | | | |
| 8. | Population[d] | | | | |
| | 8a. Level I Concentrations | b | | | |
| | 8b. Level II Concentrations | b | | | |
| | 8c. Potential Contamination | b | | | |
| | 8d. Population (lines 8a+8b+8c) | b | | | |
| 9. | Resources | 5 | | | |
| 10. | Wellhead Protection Area | 20 | | | |
| 11. | Targets (lines 7+8d+9+10) | b | | | |
| | **Likelihood of Release** | | | | |
| 12. | Aquifer Score [(Lines 3 x 6 x 11)/82,500][c] | 100 | | | |

**Groundwater Migration Pathway Score**

| | | | |
|---|---|---|---|
| 13. | Pathway Score (Sgw), (highest value from line 12 for all aquifers evaluated) | 100 | [c] |

a Maximum value applies to waste characteristics category.
b Maximum value not applicable.
c Do not round to the nearest integer.
d Use additional tables.

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## GROUNDWATER PATHWAY CALCULATIONS

### 8. Population

**Actual Contamination**

| Well Identifier | Contaminant Detected | Concentration (Note Units) | Benchmark | (A) Apportioned Population Well Serves | (B) Level* Multip. | (A x B) |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | Sum (AXB) Level I | | |
| | | | | Sum (AXB) Level II | | |

* Multipliers
- Level I = 10
- Level II = 1

**Potential Contamination**

| Distance (miles) | Total Number of Wells Within Distance Ring | Total Population Served by Wells Within Distance Ring | Distance-Weighted Population Values "Other Than Karst" (Table 3-12)* (A) |
|---|---|---|---|
| 0 to 1/4 | | | |
| >1/4 to 1/2 | | | |
| >1/2 to 1 | | | |
| >1 to 2 | 7 | 21 [illegible] | [illegible] |
| >2 to 3 | [illegible] | [illegible] | 6776 |
| >3 to 4 | 4 | 33,995 | 4171 |
| | | Sum (A) | [illegible] |

Potential contamination = $\frac{\text{Sum (A)}}{10}$ = [illegible]

* For drinking water wells that draw from a karst aquifer, see the Distance-Weighted Population Values for "Karst" in Table 3-12.

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Aquifer Evaluated _____ 21-May-1991

## HRS RATIONALE

*Pathways not assigned a score: There is an extremely limited potential for a release to surface water because known wastes are well contained. In addition, the dilution-weighting factor of the San Francisco Bay reduces the potential targets dramatically. Air and onsite pathways are based on current conditions. Wastes are not currently available to these routes.

### GROUNDWATER

1. There has been no documented release of contaminants to groundwater at this site. In addition, the potential to release appears to be low because of a high level of containment of wastes.

2. Hazardous waste at Varian is stored in 55-gallon sealed drums. Drums are stored in a bermed area.

3. As per Figure 3-2 a net precipitation factor value of 6 is obtained for the city of Santa Clara.

4. The depth to groundwater in this area is approximately 15 feet below ground surface (bgs). As per Table 3-5, a depth to aquifer factor value of 5 is obtained.

5. The facility lies on clay-rich sediments approximately 20 feet thick. As per Table 3-6, an hydraulic conductivity of $10^{-6}$ is obtained. As per Table 3-7, a travel time factor value of 15 is obtained.

6.

| | Toxicity | Mobility | T/M |
|---|---|---|---|
| Arsenic | 10,000 | .01 | 100 |
| Bromine | --- | | |
| Cyanide | 100 | --- | |
| Fluorine | 10 | --- | |
| Gold | -- | | |
| Silver | 1,000 | 2 x 10-9 | |
| Mercury | 10,000 | 2 x 10-9 | |
| Methanol | 1 | 1 | |
| Nickel | 10,000 | 2 x 10-5 | |

A T/M value of 100 was obtained for arsenic.

7. Approximately 20 55-gallon drums of hazardous waste are stored on site at any one time. As per Table 2-5, a waste quantity value of 2.42 is obtained. As per section 2.4.2.2, a hazardous waste quantity factor value of 10 is obtained.

8. The water well nearest to the site is a Santa Clara Water District well, located approximately 1.5 miles from the site. As per Table 3-11, a nearest well factor value of 5 is obtained.

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9. See Calculation table. As per Table 3-12, the total, distance weighted population within 4 miles of the site is 13,888. This value yields a potential contamination factor value of 1,388.

10. There are several wells in the area that are used for commercial agriculture.

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